

BRANCH OF WILDLIFE REFUGES

NARRATIVE REPORT

ROUTING SLIP

DATE February 18, 1952

Mr. Salyer _____

Mr. DuMont PAD

Mr. Kruames _____

Miss Bane B

SECTION OF OPERATIONS:

~~Mr. Bell~~ _____

~~Mr. Morris~~ Ben

~~Mr. Rogers~~ GR 3/1

SECTION OF HABITAT IMPROVEMENT:

Mr. Griffith REG

Mr. Rubichok _____

Mr. Bona USB

Mr. Stiles _____

SECTION OF LAND MANAGEMENT:

~~Mr. Lockwood~~ WA

Mr. Davis ead

STENOGRAPHERS:

REFUGE Lake Ilo & District 4 Easements

PERIOD September-December, 1951

LAKE ILO REFUGE.

I. GENERAL

A. Weather Conditions.

Precipitation was below normal at Lake Ilo Refuge during the report period. The temperatures averaged above normal during September and October and below normal during November and December. Temperatures were below zero during most of December. It is estimated that six inches of snow covers the ground at the end of the period.

Weather data for the past four months are as follows:

<u>Month</u>	<u>Precipitation</u>	<u>Snowfall</u>	<u>Max.Temp.</u>	<u>Min.Temp.</u>
September	1.11		82	20
October	1.43	5.5"	80	11
November	.16	2.7"	50	-15
December	.66	8.3"	47	-36
	<u>3.66</u>	<u>16.5</u> Extremes	<u>82</u>	<u>-36</u>

B. Water Conditions.

The water elevation was 14 inches below spillway crest on September 1, and the ice level on December 31 was 20 inches below the spillway - a total drop of six inches during the period.

The entire lake was completely frozen over by November 2; this was the earliest freeze-up on record. The date of freeze-up in 1950 was November 8, in 1949 - December 5.

The ice was measured on November 5 and found to be seven inches thick; a re-check on December 27 showed the ice to be 25 inches thick.

C. Fires. None.

II. WILDLIFE

A. Migratory Birds.

Approximately 10,000 ducks and 2,000 coot were present on the refuge on September 1. By October 15 their numbers had increased to 15,000. The peak concentration was reached during the latter part of October at which time an estimated 30,000 ducks were using the refuge. The total figure was below the average for past years.

The number of diving ducks present this year was higher than usual. It is estimated that 10,000 divers were present on the refuge during the latter part of October.

The peak concentration of ducks was present just before freeze-up on November 2. Most of the ducks went on south on November 1. On November 2 it was estimated that 600 mallards and a few blue-bills were on the refuge; this number decreased to approximately 100 in a few days. On November 29, 26 mallards were observed. Only six mallards were observed during the first part of December. None have been observed since the 10th of December.

Approximately 1,500 Canada's, white-fronted and snow geese used the area during the fall migration period. There were approximately 600 geese on the refuge during the latter part of October.

The shore bird migration was about the same as last year (which was smaller than usual). A number of white pelicans used the area during September and October.

B. Upland Game Birds.

It is estimated that 150 ring-necked pheasants are using the refuge this winter. It was believed that about 75 pheasants were using the refuge at the beginning of the period, and then their numbers increased during the hunting season. Very few pheasants are present in the surrounding vicinity.

Very few sharp-tailed grouse have been observed on the refuge or in the nearby vicinity. Twenty five have been observed on the refuge during December.

Fewer Hungarian partridges have been observed on the refuge during this report period than in the past. It is estimated that 40 are using the refuge at the present time.

C. Big Game Animals.

Only one white-tailed deer was observed on the refuge this period. A number of white-tailed and mule deer have been observed in the vicinity of the refuge.

D. Fur Animals, Predators, Rodents and other Mammals.

It is estimated that the muskrat population consists of approximately 300 animals. Plans were made to remove 100 rats, but to date only 35 have been trapped. Due to the early freeze-up, it is doubtful if any more will be taken this season. Mink sign indicates a population comparable to that of last year; six have been removed to date. Weasel sign is common; it is believed that there are more weasels present this year than for several years past. Skunks are too numerous; two have been trapped and eight dens have been gassed with the exhaust of a pickup.

Very few coyotes are present in this area - none have been observed on the refuge or in the near-by vicinity during the period. A number of fox tracks have been seen but it is believed that the number of foxes is rather small.

No beaver are on the refuge at the present time; there is a colony in the creek just below the refuge, however. Apparently these beaver were on the refuge for awhile as a few refuge trees were cut down in September and October.

Rabbits - Jack rabbits are numerous on the refuge and in adjacent areas.

E. Predacious Birds, including Crows, Ravens, Magpies.

A number of golden eagles have been observed during the winter on the refuge and in the vicinity. Two prairie falcons have been observed on the refuge during the period.

No snowy owls have been observed this period; this is unusual.

F. Fish.

There was no fishing on the refuge this period due to the winter kill of last year. Small perch and minnows are numerous in the lake. 10,000 wall-eyed pike and 5,000 black bass fingerlings were planted during the summer by the State Fish and Game Department.

III. REFUGE DEVELOPMENT-MAINTENANCE

A. Physical Developments.

1. Frightened ducks out of fields near refuge.
2. Removed and salvaged some fence below dam.
3. Mowed weeds on refuge roads.
4. Installed insulation in residence at headquarters.
5. Repaired refuge fence, replaced 2 wooden corner posts with steel corner posts set in concrete.
6. Cut grass and weeds around buildings at headquarters.
7. Located and gassed 8 skunk dens on refuge.
8. Reputtied and painted storm windows.
9. Measured hay harvested on refuge.
10. Hauled coal from local coal mine to headquarters for heating garages and office.
11. Installed shingles on granary - 20% completed.
12. Installed asphalt tile on basement floor of Ilo Residence 50% completed.
13. Installed platform and stanchions for two cows in barn at headquarters.
14. Inspected dam for muskrat and pocket gophers - three large holes were dug out and refilled.

15. Made minor repair on Diamond T truck, IHC Pickup and other equipment.
16. Removed coal hot water heater from basement of residence.
17. Observed wildlife, checked water levels and structures.

B. Plantings.

No crops were planted by refuge personnel. 60 acres of wheat and barley were planted this season under cooperative agreements. Part of the refuge share was left standing for wildlife food. Three acres of barley and eight acres of wheat were harvested for wildlife feeding. Refuge wheat averaged 9 bushels and barley 10 bushels per acre. The barley had 75% hail damage and wheat about 20%.

IV. ECONOMIC USE

A. Grazing.

One grazing permit was issued this year.

B. Haying.

Four haying permits were issued to neighboring farmers.

C. Fur Harvest.

One permit was issued to trap on the refuge. A complete report of furs harvested will be included in the Jan.-April, 1952 report.

See NR forms for further information on economic uses.

VI. PUBLIC RELATIONS

A. Public Uses.

1. Hunting Use. None.
2. Fishing Use. An estimated 800 visitor-days for the year.
3. Miscellaneous Use. (Includes picnicking, swimming, sight-seeing, bird-watching, business or official use, visitors regarding economic uses). An estimated 1590 visitor-days for the year.

The Recreational Area, which is under the management of the Dunn County Park Board, was maintained in good order. The public used the area a great deal during the year for picnicking and swimming in the summer, and for skating in the winter.

B. Visitors.

9/30 Mr. Henry J. McKridy, Dist. Game Warden visited refuge.
 10/12 Messrs. Gillett, Carpenter and Lampio of Finland. - visit.
 10/19 Messrs. J. Clark Salyer, Gillett and Carpenter. - visit.
 10/28 Mr. Henry Robinson, Warner, N.D. in regards to securing
 trapping permit.

Mr. A. B. Rosendahl, permittee trapper, visited refuge several times
 in regard to trapping, fur division, etc.

C. Refuge Participation.

A considerable amount of time was spent in assisting local farmers
 with duck depredation control.

D. Hunting.

No hunting is allowed on the refuge, but the refuge plays an im-
 portant role in this area in supplying fair goose and duck shooting
 on adjacent lands. Twenty geese were shot that we knew of; probably
 as many or more were shot that we did not have the opportunity to check.
 Duck hunting was considered to be very poor this year due to the mild
 weather that prevailed during the hunting season - until the first of
 November when severe cold weather drove the ducks on south.

E. Fishing.

Winter fishing was permitted from December 1, 1950 to March 1,
 1951. Large numbers of fishermen used the area when weather permitted.
 Perch was the species caught most frequently and it was estimated that
 12,000 perch were taken during the winter season.

When the regular season opened on May 16, large numbers of fish-
 ermen again flocked to the lake. Due to the winter-kill that had
 occurred, however, no fish were caught. (See narrative reports for
 Jan.-April and May-August, 1951)

As previously indicated (Section II,F) 10,000 wall-eyed pike
 and 5,000 black bass were planted in Lake Ilo this past summer by the
 North Dakota State Fish and Game Department.

F. Violations. None.

HIDDENWOOD

I. GENERAL.

Precipitation was above average during September and below for October, November and December. Water levels were higher than normal during the period; in fact, the water level was believed to be the highest since the refuge was established. It is believed that this is the reason why there are fewer bulrushes than in past years.

II. WILDLIFE.

When the area was visited on November 7, no ducks were present, but it was reported by local farmers that a large number used the refuge during September and October. It is believed, however, that fewer ducks used the area than in the past. In the past, this lake was completely covered with bulrushes; only a few remain this year. No upland game birds were observed but it is believed that a few Hungarian Partridge and sharp-tailed grouse are using the area.

The muskrat population appears to be very small compared to other years. Mink signs were numerous and it is believed that more are using the refuge than ever in the past.

A trapping permit was issued to a local farmer to trap fur-bearing animals on the refuge. No report has been received as yet as to what has been caught.

III. PHYSICAL DEVELOPMENTS.

Made a survey of muskrat and mink populations and issued trapping permits. Made wildlife observations.

LAKE PATRICIA

I. GENERAL.

Precipitation received during the period was above normal. It is believed that the water level was higher than usual.

II. WILDLIFE.

The area was not visited during the report period, but it is believed that the usual numbers of ducks were present during migration. Very few pheasants and only a few Huns and sharp-tails are believed to be using the area. In the past, large numbers of pheasants were to be found on this refuge.

III. PHYSICAL DEVELOPMENTS.

Not visited this report period due to the fact that the N.D. State Game & Fish Department has control of most of this easement refuge.

LEGION LAKE

I. GENERAL.

Precipitation and snowfall was about normal during the report period. The water level is considered very good for the amount of rainfall that occurred. The water level was approximately 12 inches below spillway crest at the time of freeze-up on November 2. Very poor crops were harvested in this vicinity.

II. WILDLIFE.

It is believed that fewer waterfowl used the area during migration than in the past. When the area was visited on October 22 the following birds were observed: 20 white-fronted geese, 200 redheads, 200 ruddy ducks, 100 canvas backs, 300 mallards, 50 coot and 15 yellow-legs. It was reported that several thousand ducks were using the area during the latter part of September and first part of October, but not as many as in the past. No upland game birds were observed on the area, but it is believed that a few sharp-tails and Huns are using the area. Hunting was considered to be very poor in this vicinity this season.

Very few signs of muskrats and only a few mink signs were observed. A trapping permit was issued to a local farm boy who has since reported that he has trapped three mink.

III. PHYSICAL DEVELOPMENTS.

1. Fur bearing animal, upland game bird and waterfowl censusing.
2. Hauled and placed 76 cu. yds. rock below spillway in hole that had been washed out in downstream apron. Two dump trucks and a front-end loader were used. 20 man-hours were used in hauling rock and 12 man-hours used for placing rock.
3. Farmers and sportsmen were contacted in regards to hunting and waterfowl populations.

MCLEAN

I. GENERAL.

Precipitation in the form of rain was above normal during September and October. The snowfall during November and December was below normal. The water level was considered to be very good during the report period. It was approximately one foot below spillway crest throughout the period and remained at this level at the time of freeze-up on November 2. Fair crops were harvested in this vicinity.

II. WILDLIFE.

It is believed that more than the usual number of mallards used the area during migration. Some crop damage was reported near the refuge.

A few sharp-tailed grouse, Hungarian partridge and pheasant were observed on the refuge.

The muskrat population is believed to be the highest since the refuge was established; approximately 100 muskrats are present. Seven large muskrat houses were observed on the north side of the lake where the bulrushes are heaviest. A number of mink signs were also observed. Two trapping permits were issued to farm boys living on the refuge.

III. PHYSICAL DEVELOPMENTS.

1. Structures checked and water level noted.
2. Discussion on depredation and hunting with local farmers and sportsmen.
3. Checked signs and markers.

PRETTY ROCK

I. GENERAL.

Precipitation and snowfall were above normal for the entire period. The water level was 10 inches below the spillway at the beginning of the period and 10 inches below at the time of freeze-up on November 2. Very good crops were harvested in this vicinity.

II. WILDLIFE.

On October 10 there were an estimated 16,000 ducks on the refuge and on November 13 an estimated 7,000. These ducks consisted mainly of mallards with a few blue-bills. It is believed that there was more waterfowl usage of this area than a year ago.

Very few upland game birds were observed on the refuge or in the vicinity during the period when visited. It is believed the ring-necked pheasant population is the smallest since the refuge was established. A few sharp-tailed grouse and Hungarian partridge are believed to be using the refuge and their numbers are believed to be about the same as last year.

The muskrat population appears to be larger than usual; it is estimated that 400 are present on the refuge. Mink signs were numerous this fall; it is believed that more mink are using the refuge than in the past. Two trapping permits were issued to local farmers that live on the refuge to trap mink, skunk, muskrat and badger during the State trapping season. Jack rabbits are numerous in this area.

III. PHYSICAL DEVELOPMENTS.

1. Inspected structures and observed wildlife. Contacted farmers in regard to waterfowl populations & issued two trapping permits.
2. Hauled 12 cu. yds. rock and placed on shoulders of road that crosses refuge.

STEWART LAKE

I. GENERAL.

Precipitation and snowfall has been above normal during the period. The water level was above normal for the period; it has been approximately one foot below spillway throughout the period. Very good crops were harvested in this vicinity.

II. WILDLIFE.

It is estimated that 31,000 ducks used the area during the fall migration. When the refuge was visited on October 13 it was estimated that 12,000 ducks were present. These birds consisted mainly of mallards. On November 9 it was estimated that 12,000 mallards were on the refuge. It was reported that a few geese used the refuge during migration; these were Canadas, white-fronted and snow geese.

Very few ring-necked pheasants were observed in this vicinity and none on the refuge. No sharp-tailed grouse or Hungarian partridge were observed but it is believed that a few are using the refuge.

Very few signs of muskrats were observed on the refuge this period. A number of mink signs were observed. A trapping permit was issued to a farm boy whose father owns land on the refuge. Skunks are numerous in this area and it is believed that a few are on the refuge.

It is believed that a number of antelope and deer used the refuge this period as they are present in the general area.

III. PHYSICAL DEVELOPMENTS.

1. Inspected structure and wildlife censusing.
2. Checked water levels and issued four trapping permits.

WHITE LAKE

I. GENERAL.

The precipitation and snowfall received during the period was above normal. The water level was only a few inches below spillway crest at the beginning of the period and one foot below at freeze-up on Nov. 2. Very good crops were harvested in this vicinity.

II. WILDLIFE.

It is estimated that 16,500 waterfowl used the refuge during the fall migration and that the peak concentration was in the neighborhood of 13,000. Upland game birds are scarce in this area. While none were actually observed during the report period it is believed that a few

pheasants, sharp-tailed grouse and Huns are using the refuge.

A few muskrat, mink and skunk signs were observed on the refuge this fall. A trapping permit was issued to a landowner to trap furbearers on the refuge.

III. PHYSICAL DEVELOPMENTS.

1. Structures and water levels checked.
2. Wildlife censusing and prospective trappers contacted. One trapping permit issued.

--- * ---

NOTE: The report this period for Lake Ilo and the District IV Easement Refuges is based on data supplied by Mr. Chesley M. Dinkins, Maint. Man (General).

WATERFOWL

 Refuge Lake Ilo Months of September to December 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u>									
Whistling swan	None observed.								
II. <u>Geese:</u>									
Canada goose	4	10/17	1,000	10/15-30	50	11/10			1,200
Cackling goose									
Brant									
White-fronted goose	18	10/13	500	10/20-30	150	10/27			800
Snow goose	40	10/13	75	10/13-20	45	10/22			150
Blue goose									
III. <u>Ducks:</u>									
Mallard			30,000	10/20-31	6	12/10			40,000
Black duck									
Cadwall			200	10/1-20					300
Baldpate			500	10/1-20					1,000
Pintail			2,000	9/10-30					6,000
Green-winged teal			25	9/20-10/10	2	10/20			50
Blue-winged teal			1,000	9/20-10/10	400	10/26			2,000
Cinnamon teal									
Shoveller			2,000	9/20-10/20	200	10/30			2,000
Wood duck									
Redhead			1,000	10/1-20	100	11/1			2,000
Ring-necked duck									
Canvas-back			2,000	10/10-25	200	11/1			5,000
Scaup			4,000	10/20-30	150	11/2			5,000
Golden-eye			25	9/20-30					25
Buffle-head			25	9/21-30					25
Ruddy duck			2,000	10/10-30	500	11/1			3,000
IV. <u>Coot:</u>			2,000	9/10-11/10	100	10/30			4,000

SUMMARIES

Dates waterfowl counts made _____	Total waterfowl usage during period <u>71890</u>
Percent of waterfowl area covered _____	Peak waterfowl numbers <u>48,350</u>
Dates brood counts made _____	Areas used by concentrations <u>Entire area.</u>
Percent of area covered in brood counts _____	
Total production: * * * * *	Principal nesting areas this season _____
Geese _____	
Ducks * * * * *	
Coots _____	Reported by <u>Chesley M. Dinkins</u> <u>(Maint. Man-Gen.)</u>

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Hiddenwood Months of September to December 1945

(1) Species		(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name		Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u>										
Whistling swan		None observed.								
II. <u>Geese:</u>										
Canada goose		None observed.								
Cackling goose										
Brant										
White-fronted goose		"	"							
Snow goose		"	"							
Blue goose										
III. <u>Ducks:</u>										
Mallard				4,000	10/20-31					5,000
Black duck										
Gadwall				20	10/1-15					20
Baldpate				50	10/1-15					50
Pintail				400	10/1-20					500
Green-winged teal				20	10/1-15					20
Blue-winged teal				200	10/1-15					200
Cinnamon teal										
Shoveller										
Wood duck										
Redhead				100						100
Ring-necked duck										
Canvas-back				150	10/10-20					200
Scaup				200	10/20-30					400
Golden-eye				20	10/1-15					20
Buffle-head				20	10/1-15					20
Ruddy duck				200	10/10-20					200
IV. <u>Coots:</u>				200	10/1-15					400

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 7,130

Peak waterfowl numbers 5,580

Areas used by concentrations Entire water area.

Principal nesting areas this season _____

Reported by Chasley M. Dinkins
Refuge Maint. Man (Gen.)

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Lake Patricia Months of September to December 194/ 51

(1) Species		(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name		Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u>										
Whistling swan		Area not visited during period.								
II. <u>Geese:</u>										
Canada goose		None observed.								
Cackling goose										
Brant										
White-fronted goose		"	"	100	10/20-30					100
Snow goose		"	"							
Blue goose										
III. <u>Ducks:</u>										
Mallard				7,000	10/20-11/2					10,000
Black duck										
Gadwall				70	10/1-15					100
Baldpate				100	10/1-15					200
Pintail				800	10/10-30					1,000
Green-winged teal				50	10/1-20					50
Blue-winged teal				300	10/1-15					500
Cinnamon teal										
Shoveller				100	10/20-30					200
Wood duck										
Redhead				100	10/20-30					200
Ring-necked duck										
Canvas-back				150	10/20-30					200
Scaup				300	10/20-30					400
Golden-eye										
Buffle-head										
Ruddy duck				200	10/10-30					200
IV. <u>Coots:</u>										
				1,000	10/1-15					1,000

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 14,150

Peak waterfowl numbers 9,250

Areas used by concentrations Entire water area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins

Refuge Maint. Man (Gen.)

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Legion Lake Months of September to December 1945

(1) Species		(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name		Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u>										
Whistling swan										
II. <u>Geese:</u>										
Canada goose		None observed.								
Cackling goose										
Brant										
White-fronted goose		20	10/22	75	10/20-30					100
Snow goose		None observed.								
Blue goose										
III. <u>Ducks:</u>										
Mallard				5,000	10/1-10					8,000
Black duck										
Gadwall				50	10/1-12					100
Baldpate				100	10/1-15					150
Pintail				800	10/1-15					1,000
Green-winged teal				20	9/10-30					20
Blue-winged teal				200	9/10-30					300
Cinnamon teal										
Shoveller				200	9/20-10/20					300
Wood duck										
Redhead				400	10/10-30					500
Ring-necked duck										
Canvas-back				200	10/10-30					300
Scaup				400	10/10-30					500
Golden-eye										
Buffle-head										
Ruddy duck				200	10/10-30					400
IV. <u>Coots:</u>				400	9/20-10/15					600

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 12,270

Peak waterfowl numbers 8,745

Areas used by concentrations Entire water area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins
Maint. Man (Gen.)

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge McLean Months of September to December 1945

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose	None observed.								
Cackling goose									
Brant									
White-fronted goose	"	"							
Snow goose	"	"							
Blue goose									
III. <u>Ducks:</u> Mallard			8,000	10/1-30					12,000
Black duck									
Gadwall			50	10/1-20					100
Baldpate			100	10/1-20					100
Pintail . . . . .	. . . . .	. . . . .	600	10/1-20					800
Green-winged teal			50	10/1-10					50
Blue-winged teal			200	9/20-10/10					300
Cinnamon teal									
Shoveller			100	9/20-10/10					200
Wood duck									
Redhead . . . . .	. . . . .	. . . . .	100	10/10-30					200
Ring-necked duck									
Canvas-back			100	10/10-30					200
Scaup			400	10/10-30					600
Golden-eye									
Buffle-head									
Ruddy duck			200	10/10-30					200
IV. <u>Coot:</u>			300						400

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 15,150

Peak waterfowl numbers 10,200

Areas used by concentrations Entire water area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins
Maint. Man (Gen.)

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Pretty Rock Months of September to December 194/ 51

(1) Species		(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name		Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u>										
Whistling swan										
II. <u>Geese:</u>										
Canada goose				50	10/10-20					50
Cackling goose										
Brant										
White-fronted goose				200	10/10-30					200
Snow goose		None observed.								
Blue goose										
III. <u>Ducks:</u>										
Mallard				15,000	10/20-11/10					20,000
Black duck										
Gadwall				150	10/1-15					200
Baldpate				300	10/1-15					400
Pintail				3,000	8/20-9/10					5,000
Green-winged teal		None observed.		50	9/20-30					50
Blue-winged teal				500	9/20-30					800
Cinnamon teal										
Shoveller				500	9/20-10/20					600
Wood duck										
Redhead				200	10/10-30					200
Ring-necked duck										
Canvas-back				300	10/10-30					300
Scaup				600	10/10-30					800
Golden-eye										
Buffle-head										
Ruddy duck				400	10/10-30					500
IV. <u>Coots:</u>				500	10/1-15					600

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 29,700

Peak waterfowl numbers 22,050

Areas used by concentrations Entire water area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins
Maint. Man (Gen.)

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Stewart Lake Months of September to December 1947 // 51

(1) Species Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose			50	10/10-30					75
Cackling goose									
Brant									
White-fronted goose			100	10/10-30					150
Snow goose			25	"					50
Blue goose									
III. <u>Ducks:</u> Mallard			15,000	10/20-30					25,000
Black duck									
Gadwall			100	10/1-15					200
Baldpate			400	"					400
Pintail			2000	"					2500
Green-winged teal			50	"					50
Blue-winged teal			500	"					600
Cinnamon teal									
Shoveller			200	10/1-20					300
Wood duck									
Redhead			200	10/10-30					300
Ring-necked duck									
Canvas-back			200	"					300
Scaup			600	"					800
Golden-eye									
Buffle-head									
Ruddy duck			200	"					200
IV. <u>Coot:</u>			200	10/1-15					200

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 31,125

Peak waterfowl numbers 19,825

Areas used by concentrations Entire water area

Principal nesting areas this season _____

Reported by Chesley M. Dinkins
(Maintenance Man-General)

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge White LakeMonths of September to December 1945

(1) Species Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose	15	10/13	50	10/10-30					50
Cackling goose									
Brant									
White-fronted goose	19	10/13	100	"					150
Snow goose	40	"	100	"					100
Blue goose									
III. <u>Ducks:</u> Mallard			10,000	"					12,000
Black duck									
Gadwall			100	10/1-15					150
Baldpate			200	"					250
Pintail			1000	"					1500
Green-winged teal			50	"					50
Blue-winged teal			500	"					800
Cinnamon teal									
Shoveller			200	10/10-20					300
Wood duck									
Redhead			100	10/10-30					200
Ring-necked duck									
Canvas-back			200	"					300
Scaup			500	"					700
Golden-eye									
Buffle-head									
Ruddy duck			100	"					100
IV. <u>Coots:</u>			300	10/1-15					500

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 17,150

Peak waterfowl numbers 13,500

Areas used by concentrations Entire water area

Principal nesting areas this season _____

Reported by Chesley M. Dinkins
(Maintenance Man-General)

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Lake Ilo Months of September to December 1945

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Common Loon			5	9/15-30	2	10/13				5
Western Grebe			10	"						20
White Pelican			100	9/20-30						200
Double-crested Cormorant			10	"						20
Great Blue Heron			10	"						20
American Bittern			15	9/10-20						20
Eared Grebe			200	9/10-30						200
Sand Hill Crane			3000	9/10-30						3500
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer			100	9/10-30						100
Greater Yellow-legs			200	"						300
Lesser Yellow-legs			300	"						400
Sand Piper			40	"						50
Dowitcher			30	"						50
Avocet			20	"						50
Wilson's Snipe			150	"						200
Gulls			2000	9/10-30						4000
Marbled Godwit			20	"						50
Wilson's Phalarope			200	"						300
Willet			20	"						20
Black Tern										300
Common Tern										500

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove		20	9/1-20		50
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle	1	9/23	3	12/1-30	4
Duck hawk	1	9/10	4	10/10-30	6
Horned owl	1	9/10	3	10/20-30	3
Magpie					
Raven					
Crow			300	9/10-30	500
Snowy Owl					
Swainson's Hawk			4	9/10-30	8
Am. Rough-legged Hawk			4	"	8
Marsh Hawk			10	"	15
Prairie Falcon	1	10/26	2	12/10-30	2
Sparrow Hawk			10	9/10-30	10
Reported by <u>Chesley M. Dinkins (Maint. Man-Gen.)</u>					

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Lake Ilo and District IV Easement Months of September to December, 1945
Refuges

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat Acres per Bird	Number broods obs'd. Estimated Total	Percentage	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
<u>LAKE ILO</u> Ring-necked Pheasant Sharp-tailed Grouse Hungarian Partridge			1M : 2F		150 25 40	The open season on pheasants greatly reduced their numbers in this area.
<u>HIDDENWOOD</u> Ring-necked Pheasant Sharp-tailed Grouse Hungarian Partridge					10 20 40	
<u>LAKE PATRICIA</u> Ring-necked Pheasant Sharp-tailed Grouse Hungarian Partridge					50 20 40	
<u>LEGION LAKE</u> Ring-necked Pheasant Sharp-tailed Grouse Hungarian Partridge					none 20 20	
<u>McLEAN</u> Ring-necked Pheasant Sharp-tailed Grouse Hungarian Partridge					12 20 40	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Lake Ilo and District IV Easement Months of September to December, 1945
Refuges

(1) Species.	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd. Estimated Total	Percentage	Hunting For Re- stocking For Research	Estimated number using Refuge Pertinent information not specifically requested. List introductions here.
<u>PRETTY ROCK</u> Ring-necked Pheasant Sharp-tailed Grouse Hungarian Partridge						50 10 40
<u>STEWART LAKE</u> Ring-necked Pheasant Sharp-tailed Grouse Hungarian Partridge						30 50 50
<u>WHITE LAKE</u> Ring-necked Pheasant Sharp-tailed Grouse Hungarian Partridge						10 20 30

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1756
Form NR-6
(April 1946)

FISH

Refuge Lake Ilo Year 1951

Species	Relative Abundance	Sport Fishing		Commercial Fishing		Restocking **		Number removed for Restocking
		Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	
Large Mouth Bass*	-					5,000	(fingerlings planted summer '51)	
Bluegills*	-							
Crappies*	-							
Perch	small ones abundant	800	12,000	(all these were taken during winter season of Dec. 1, 1950 to March 1, 1951. Approximately 400 man-days of fishing in summer season of 1951 caught no fish)				
Wall-eyed Pike*	-					10,000	(fingerlings planted summer '51)	
Bullheads	small ones common							
Suckers	Minnows common, a few adults observed							
Carp*								
Catfish*								

REMARKS: * These species all winter-killed in winter of 1950-51.

** Restocking done by N. Dak. State Game and Fish Dept.

Lake Ilo was tested in July of 1951 by the N. Dak. State Game and Fish Dept. to determine the extent of the winter kill. Only a few golden shiners (6" long), suckers (9-16" long), and perch (13" long) were caught. Large numbers of small perch and minnows were found. It is believed that perch fishing will be very good in a short time (about 1953).

(April 1946)

FISH

Refuge District IV Easement Refuges Year 19451

Species	Relative Abundance	Sport Fishing		Commercial Fishing		Restocking		Number removed for Restocking
		Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	
Hiddenwood		none		none		none		none
Lake McLean		none		none		none		none
Lake Patricia	minnows numerous	none		none		none		none
Legion Lake	suckers, minnows numerous	none		none		none		none
Pretty Rock	minnows common	none		none		none		none
Stewart Lake	It is believed most of the fish(perch, catfish, bullheads, suckers) winter killed. None were reported caught. A few minnows were observed.							
White Lake	It is believed most of the fish(suckers and bullheads) winter killed. None were reported caught. A few minnows observed.							

REMARKS:

CULTIVATED CROPS

Refuge Lake Ilwaco Year 1945

Permittee (If farmed by refuge personnel, so indicate)	Permit No.	Unit or Loca- tion	Crops Grown	Avg. Yield per Acre	Permittee's Share		Government's Share or Return				Compensatory Services, or Cash Revenue
					Acres	Bu. Har- vested	Harvested		Unharvested		
							Acres	Bu.	Acres	Bu.	
Tom Donohoe	18707	AUL,2	Wheat	9	24	216	8	72	none	none	13 acres summer fallow
Charles Schollmeyer	18706	AU 4,5	Barley	10	-	-	3	30	4	120	27½ acres summer fallow
			Wheat	9	21	189	-	-	-	-	

Summary of Crops Grown:	Crop	Acreage	Permittee's Share		Government's Share				Total Revenue
			Acres	Bushels	Harvested		Unharvested		
					Acres	Bu.	Acres	Bu.	
20% hail damage	Wheat	53	45	405	8	75	none	none	
75% hail damage	Barley	7	none	none	3	30	4	120	
	S. fallow	40½							

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

Permittee - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the Permittee column.

Permit No. - List the number of the Special Use Permit issued to the individual.

Use or Location - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

Crops Grown - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, brome grass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. Unharvested - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the Bushels column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

3-1570
NR-8a

REFUGE GRAIN REPORT

Refuge Lake Il o

Months of Sept. thru Dec 1945.

(1) VARIETY	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED USE		
				TRANS- FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Wheat	-	75	75	-	-	-	-	75	-	75	-
Berley	-	30	30	-	-	-	-	30	-	30	-
Speltz and Wheat (mixed)	191	-	191	-	-	-	-	191	-	191	-
TOTALS	191	105	296	-	-	-	-	296	-	296	-

(8) Indicate shipping or collection points.....

(9) Grain is stored at Lake Il o.....

(10) Remarks.....

NR-8a

REFUGEE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)--55 lbs., Corn (ear)--70 lbs., Wheat--60 lbs., Barley--50 lbs., Rye--55 lbs., Oats--30 lbs., Soy Beans--60 lbs., Millet--50 lbs., Cowpeas--60 lbs., and Mixed--50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

HAYING AND GRAZING

Refuge Lake Ilo Year 1945

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
HAYING									
Tom Donohoe	76	HU1,2,3	40		23	7/15-11/15	1.00	23.00	
Grover Odren	78	HU6,7	10		5	"	"	5.00	
G. W. Searles	75	HU5	15		10	"	"	10.00	
Charles Schollmeyer	79	HU4	none		none	"	"	5.00	
GRAZING									
Louis Saetz	77	GUB	45	30		7/15-10/15	0.50	15.00	

Totals:

Acreage grazed 45 Animal use months 30 Total income Grazing 15.00
 Acreage cut for hay 65 Tons of hay cut 38 Total income Haying 43.00

LAKE ILO REFUGE

I. GENERAL

A. Weather Conditions.

Precipitation was below average for May and June while the amount received in July and August was above average. The month of May was considered very dry and cold; several killing frosts occurred during the month - the latest on May 27. June was cooler than normal and very dry. July and August were cooler than usual. There were two hail storms in this vicinity on August 16 and 20. There has not been a frost in August which is unusual.

<u>Weather Data Tabulation</u>				
<u>Year</u>	<u>Month</u>	<u>Precipitation</u>	<u>Temperature</u>	
			<u>Maximum</u>	<u>Minimum</u>
1951	May	0.64	86	23
	June	2.02	84	35
	July	2.78	98	52
	August	2.78	100	29
	Total	8.22	Extremes 100	23
1950	May	3.93	83	26
	June	4.31	91	30
	July	0.72	97	38
	August	0.83	91	29
	Total	9.69	97	26

B. Water Conditions.

The lake level was two inches above spillway crest at the beginning of the period. By May 10 only a very small stream was flowing over the spill, and from that date to the close of the period the water level receded to 14 inches below the spillway crest.

C. Fires.

No fires during the period; the above normal precipitation in July and August greatly reduced the fire hazard.

II. WILDLIFE

A. Migratory Birds.

1. Populations and Behavior.

The populations of all migratory birds showed a decrease from 1950 for the months of May, June and July. It is believed that the numbers present in August were equal to those of last year. A brood

count was made on July 26 and re-checked several times. 66 broods were recorded. The brood count for 1950 showed 128, 1949 - 206, and 1948 - 200 broods.

The estimated population in early July was 4500, and in August it was 10,000. The population consisted of approximately 2000 Blue-winged Teal, 4000 Mallards, 3000 Pintails, and 1000 other ducks, mainly Gadwall, Shoveller and Baldpate. Five Green-winged Teal were seen on August 31. An estimated 2000 Coot were using the refuge in the latter part of August.

It is believed that fewer shorebirds used the area than in the past. The estimated 2000 shorebirds that used the area during the period included Wilson's Phalaropes, Yellow-legs, Willets, Killdeer, Avocets and Spotted Sandpipers. White Pelicans were present throughout the period; 40 were counted on August 31. Great Blue Herons were present in fewer numbers than usual.

2. Food and Cover.

Food and cover conditions were the best that have ever been observed on the area.

B. Upland Game Birds.

It is estimated that 100 Ring-necked Pheasants were using the refuge at the beginning of the period. Since then very few broods or adult pheasants have been seen on the refuge or in the surrounding vicinity. It is the opinion of refuge personnel that the pheasant population is smaller than that of last year, that also seems to be the general opinion of farmers in the vicinity. The Dunn County Wildlife Federation and other Wildlife organizations in this area believe that there are more pheasants than usual. Most of them have gone on record to that effect. It is believed that most of the hunters are going to be disappointed when the season opens in this area on October 5.

It is estimated that Sharp-tailed Grouse are present in approximately the same numbers as last year. Five adult sharp-tails and one brood have been observed in the vicinity.

One brood of 10 Prairie Chickens were observed about 20 miles northeast of the refuge.

A few Hungarian Partridge have been seen on the refuge and in the surrounding vicinity during this period. It is believed that their numbers are about the same as last year (which was considered normal).

C. Big Game Animals.

No big game animals have been observed on the refuge. A few white-tailed deer have been observed in the nearby vicinity; 14 antelope have been observed eight miles north of the refuge.

D. Fur Animals, Predators, Rodents and other Mammals.

No mink have been observed on the refuge this period, although some sign has been observed. It is believed that their population is about the same as last year.

More weasels have been seen this period on the refuge, and in this vicinity, than at any time since the refuge was established.

The muskrat population appears to have decreased from last year even though none were harvested in 1950. It is estimated that from 200 to 300 are using the area.

No coyote or fox have been observed on the refuge. It is believed that their numbers are very low.

A few signs of beaver have been observed on the refuge during the period. It is believed that one or two have been present. Very little damage has been done to the trees however.

Skunks are numerous on the refuge and in the vicinity.

F. Fish.

As reported in the last narrative report, most of the fish winter-killed in Lake Ilo during the past winter.

Test nettings were made in the lake on July 24 and 25 by the North Dakota State Game and Fish Department to determine the extent of winter-kill and to find out what species of fish were still present. Nets were set for two days and nights. A 250-foot gill net and a 25-foot trammel net were used. The following fish were taken:

250-foot gill net - 66 golden shiners, six to eight inches long; three perch, eight, nine and $11\frac{1}{2}$ inches long; and four suckers, each 12 inches long.

25-foot trammel net - one perch 13 inches long; three golden shiners, each six inches long; and 47 suckers, eight to 16 inches long.

A 75 x 6 foot minnow net was used on many parts of the lake in short drags along shore. 50 to 10,000 small perch, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches, were taken each time and a large number of minnows (suckers, chubs and shiners). No other game fish were found, and no carp, catfish or bullheads were found.

During the latter part of July and the first part of August a number of schools of small bullheads were seen in the lake.

It is believed that there are more small minnows in the lake than there have been for several years. It is possible that perch fishing will be good for a few years when they attain sufficient size, but it is also

possible that they will become over-populated in a very short time.

Sometime in the early part of August 10,000 wall-eyed pike were planted in Lake Ilo by the State Game and Fish Department. Mr. Dinkins, Maintenance Man at Lake Ilo, was not informed that plans had even been made for this planting, and was not around when it was done. We will have to inform the State Department that we would appreciate their notifying us of their plans for re-stocking refuge waters.

A large number of fishermen were on the lake during the first few days of the fishing season; they continued to try to fish for approximately six weeks. No fish were caught that we know of. Some of these fishermen came from a distance of 200 miles and were very disappointed with the lack of fish.

III. REFUGE DEVELOPMENT - MAINTENANCE

A. Physical Developments.

The following maintenance and construction projects were completed during the period.

1. Completed construction of barnyard fence at headquarters.
2. Completed construction of new refuge boundary fence on the west line of the SW $\frac{1}{4}$ of Section 29. Removed old fence.
3. Cleaned up around spillway and removed some forms that were left on last winter. Returned borrowed steel culverts to county.
4. Installed electric stove in Ilo residence.
5. Installed electric water heater.
6. Painted outside of buildings at headquarters, re-puttied windows (small garage completely painted, green trim put on other buildings, and approximately 50% of residence painted).
7. Built concrete approach in front of large garage at headquarters; filled in around approach with scoria.
8. Mowed weeds on refuge roads.
9. Checked and repaired refuge markers.
10. Repaired fence where damaged by car running into it.
11. Assisted State Game and Fish Department in making test nettings of fish in Lake Ilo.
12. Made brood count on Ilo July 26.
13. Made minor repairs on Diamond-T truck, IHC pickup, and other Government-owned equipment.
14. Cultivated ground for trees that are to be planted next spring.

B. Plantings.

Cultivated Crops.

No crops were planted by refuge personnel. The following crops were planted by share-croppers:

Tom Donahoe, Permit No. 18707--32 acres of wheat. Thirteen acres of corn were to have been planted; but, due to the late spring, the ground was summer fallowed. A share of the wheat is to be taken by the refuge;

not delivered to date but harvested; 25% hail damage occurred on this crop.

Charles Schollmeyer, Permit No. 18706--42 $\frac{1}{2}$ acres summer fallowed; 42 $\frac{1}{2}$ acres of barley and wheat were planted. The refuge share was four acres harvested with the balance left standing--this was completely hailed out on August 16 but will still make good bird food. Approximately half of the wheat was also damaged by hail; the other half of the wheat had been harvested before the hail storm.

IV. ECONOMIC USE OF REFUGE.

- A. Grazing. One grazing permit is in effect at the present time.
- B. Haying. Four haying permits were issued to neighboring farmers. 50% of the hay has been harvested to date.
- C. Other Uses. None.

V. FIELD INVESTIGATION OR APPLIED RESEARCH.

None.

VI. PUBLIC RELATIONS.

A. Recreational Uses.

The recreational area was again under the management of the Dunn County Park Board under a cooperative agreement with the Service. They have cultivated trees, mowed grass, and have kept the picnic grounds in good shape. Lights were installed at the swimming beach on June 15 and have been in use during the remainder of the report period.

10,000 wall-eyed pike were stocked in Lake Ilo according to the Killdeer Herald, county paper; but no official notification has been received from the State Game and Fish Department.

BASEMENT REFUGES - DISTRICT IV.HIDDENWOODI. GENERAL.

Precipitation for this area was below normal for the period. Fair crops were produced. Water levels were higher than normal at the beginning of the period and have remained favorable.

II. WILDLIFE.

Very few birds have been observed on the area during the summer months. When visited on July 23 a brood count was made - only 5 broods of ducks were recorded, and only a few adult ducks and six coot were observed but it is believed that a number of migratory birds used the area during August.

No upland game birds were observed, but we believe a few Pheasant, Sharp-tailed Grouse and Hungarian Partridges are using the area.

In the past this lake was completely covered with bullrushes, only a few are present this year, and they are along the shoreline. Very few other aquatic plants were present.

The muskrat population appears to be very small compared to other years. A few mink signs were observed and it is believed a small number are using the refuge.

III. PHYSICAL DEVELOPMENTS.

1. Brood counts and wildlife observations.

LAKE PATRICIAI. GENERAL.

Rainfall was above normal during the period. Very good crops were harvested in this vicinity. Water levels were higher than normal. Water was 10 inches below spillway crest on July 18.

II. WILDLIFE.

A brood count was made on July 18 and 12 broods were recorded. This is a smaller brood count than usual. Very few blue-winged teal were observed in this vicinity. The total waterfowl usage was below records of the past.

No Pheasants were observed when visited on July 18 and their numbers are very low compared with the past. No Sharp-tailed Grouse or Hungarian Partridges were observed and it is believed a few are using the area.

III. PHYSICAL DEVELOPMENTS.

1. Brood counts and wildlife observations.
2. Checked structures and markers.

LEGION LAKE

I. GENERAL.

Rainfall was below normal during the entire report period. The water level has remained very good. A small amount of water flowed over the spillway the first part of May - and has receded to approximately 12 inches below spill crest at the close of the period. Crops were very poor in this vicinity. The prairie grass was as brown as in the fall when the area was visited on July 23.

II. WILDLIFE.

Thirty broods were recorded on the count of July 23. The following birds were observed. Killdeer - 20, Willet - 30, Avocet - 6, Great-Blue Heron - 2, White Pelican - 2, Spotted Sand Piper - 12, Yellow-Legs - 40, Black-Crowned Night Heron - 3, and 4,000 gulls were observed on a small island in the lake.

No Pheasants were observed using the area but it is believed that a few are present, possibly more than there have been for several years. A number were seen in the vicinity of the refuge. No Sharp-tailed Grouse or Hungarian Partridge were observed on the refuge but a few were seen in the surrounding vicinity and we believe a few are using the refuge.

III. PHYSICAL DEVELOPMENTS.

1. Brood counts and wildlife observations.
2. Structures and markers checked.

McLEAN

I. GENERAL.

Precipitation was below normal for the first three months and above normal for the last month of the period. Poor crops were harvested in this vicinity. A small flow of water was going over the spillway in May and it was 6" below spillway crest on July 23. The water is believed to be approximately 12" below spill crest at the close of the period.

Bullrush stands appeared to be the best since the refuge was developed. This plant makes excellent cover for this area.

II. WILDLIFE.

A brood count was made on July 23 and nine broods were recorded. Due to the good cover on this area it is believed that more broods were present than the number recorded. The usual number of shore birds were also present.

A number of muskrats were observed and their numbers are greater than normal. A few signs of mink were observed.

No upland game birds were observed during the date of the brood count, but a few Sharp-tailed Grouse and Hungarian Partridges are believed to be using the area.

III. PHYSICAL DEVELOPMENTS.

1. Brood counts and Wildlife observations.
2. Structures checked and water level noted.

PRETTY ROCK

I. GENERAL.

Precipitation was above normal for the entire period. Crop yields were above average. Water level has been very good during the report period. A small amount flowed over the spillway during most of May and during the remainder of the period the water level was only a few inches below the spillway crest. On August 23 the water level was checked and found to be 10 inches below crest.

II. WILDLIFE.

A brood count was made on July 18 and 28 broods were observed, which is 11 less than last year. Seventy five adult and 8 broods of eared grebe were recorded. Twenty two male ruddy ducks were also observed on this date. The area was again visited on August 23 and the following wildlife was recorded. Mallard - 700, Pintail - 2,500, Blue-winged teal - 50 adult & three small broods, Shoveller - 200, Baldpate - 600, Gadwall - 20, Ruddy - 8, Coot - 300, Eared grebe - 100, Yellow Legs - 200, Great Blue Heron - 2, Killdeer - 20, Avocet - 5. It is believed the fall migrant waterfowl population increased some after this date.

Two broods of Pheasants were observed on the refuge on July 18 and one brood on August 23. The Pheasant population is believed to be smaller than last year as the farmers in this vicinity informed that they had observed very few this summer.

No Sharp-tailed Grouse or Hungarian Partridge were observed on the refuge this period but it is believed a few are using the area. A small number have been observed in the vicinity during the period.

According to signs, the mink and muskrat population is about the same as for last year.

III. PHYSICAL DEVELOPMENTS.

1. Completed repairing spillway, 36 lin. ft. of 3" wakefield piling, 6' long were placed across spillway and a concrete cap 1'6" x 1'6" - 36 was poured on piling.
2. Brood counts and wildlife observations made.
3. Checked refuge markers.

Repair of spillway as follows:

1. Hauled piling, cement, 1 cu.yd. sand and 3 cu. yds. gravel from Lake Ilo to job.
2. Placed 6' wakefield piling across spillway.
3. Poured concrete cap 18"x18" x 36'.
4. Rented cement mixer and returned same.
5. Expended 50 man-hours labor.

STEWART LAKE

I. GENERAL.

Precipitation was above normal for the period. Crops were very good in this vicinity. The water level was very good this period. A small amount passed over the spillway in May and June, but receded to 12 inches below spill crest by July 17. The area has not been visited since that date but the water level should be about the same or possibly higher as there has been a good amount of rainfall in this vicinity in August.

The spillway appears to be about the same as it did this spring. This spillway was damaged by the spring run-off in 1950.

II. WILDLIFE.

The area was visited for brood count and inspection on July 18. Nine broods of ducks were recorded and 85 adult ducks, 200 shore birds were observed. It is estimated that 3,000 to 4,000 ducks were present on the refuge the latter part of August but the area was not visited at that time.

No Pheasants were observed on the date the brood count was made but it is believed a few Pheasants, Sharptailed Grouse and Hungarian Partridges are using the area. There should be more than last year due to the mild winter, but I was informed by some of the local farmers that very few have been seen this summer.

A few signs of muskrat and mink were observed on the area but none seen. It is estimated that approximately the same number are present

on the refuge as last year. Signs of skunk were numerous and their numbers have increased over last year.

III. PHYSICAL DEVELOPMENTS.

1. Brood counts and wildlife observations.
2. Boundary markers and structures checked.

WHITE LAKE

I. GENERAL.

Precipitation was above normal for the report period. Crops are very good in this vicinity. The water level has been higher than normal during the report period. The water level was approximately level with spillway during the period. A small amount ran over the spillway off and on during most of the period. When visited on July 17, the water was 2" below spillway crest.

II. WILDLIFE.

A brood count was made on July 17 and 11 broods were recorded. This is 9 more than a year ago. The following birds were observed on this date: 75 adult ducks including mallard, pintail and baldpate; 30 killdeer, 7 avocets, 6 willets, 15 eared grebe and 25 coot.

No ring-necked pheasants, sharp-tails or "Huns" were observed but it was reported by farmers in this vicinity that a few had been seen on the refuge and in the surrounding locality during the period.

A few mink and muskrat signs were observed. Their numbers are believed to be a little smaller than last year, but a few are using the area. Skunks are numerous on the refuge.

III. PHYSICAL DEVELOPMENTS.

1. Brood counts and wildlife observations.
2. Structures and water levels checked.

---- * ----

NOTE: The above report on Lake Ilo and the District IV Easement Refuges was prepared largely on data supplied by Mr. Chesley M. Dinkins, Maintenance Man (General).

DISTRICT IV EASEMENT REFUGE BROOD DATA

	Species	Number of Broods	Number of Young
<u>1. Lake Ilo</u>	Mallard	16	104
	Gadwall	2	14
	Baldpate	10	64
	Pintail	19	116
	G.W.Teal	-	-
	B.W. Teal	-	-
	Shoveller	17	108
	Coot	2	8
	Total	66	414
<u>2. Hidden Wood</u>	Mallard	3	19
	Pintail	-	-
	Ruddy	2	11
	Unidentified	1	5
	Total	6	35
<u>3. Lake Patricia</u>	Mallard	3	19
	Gadwall	11	7
	Baldpate	1	6
	Pintail	3	18
	B.W.Teal	4	27
	Total	12	77
<u>4. Legion Lake</u>	Mallard	10	65
	Baldpate	5	32
	Pintail	3	18
	B.W. Teal	6	41
	Shoveller	6	38
	Total	30	194
<u>5. Lake McLean</u>	Mallard	3	19
	Pintail	4	24
	Shoveller	2	13
	Total	9	56
<u>6. Pretty Rock</u>	Mallard	6	39
	Gadwall	1	7
	Baldpate	5	32
	Pintail	5	31
	B.W.Teal	6	41
	Shoveller	5	32
	Total	28	182

EASEMENT REFUGE BROOD DATA (Continued)

	Species	Number of Broods	Number of Young
<u>7. Stewart Lake</u>	Mallard	3	19
	Pintail	3	18
	B.W.Teal	3	20
	Total	9	57
<u>8. White Lake</u>	Mallard	3	20
	Pintail	3	18
	B.W.Teal	2	14
	Shoveller	3	19
	Total	11	71
	Grand Total	171	1086

The number of young is based on the average brood size given in the May circular on Waterfowl brood counts.

The total production for Lake Ilo and Easement Refuges in District IV was 171 broods and 1086 young; in 1950 there were 193 broods and 1191 young; in 1949 there were 252 broods and 1630 young.

REFUGE

Lake Ilo

WATERFOWL

MONTHS OF

May

to

August

, 1951

(1) Species Common Name	(2) First Migrants Seen		(3) Peak Concentration		(4) Last Migrants Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
1. <u>Swans:</u> Whistling swan									
2. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									
3. <u>Ducks:</u> Mallard			4000	8/20-31			16	350	4500 ✓
Black Duck									
Gadwall			100	"			2	30	150 ✓
Baldpate			1000	"			10	100	1200 ✓
Pintail			3000	"			19	200	4000 ✓
Green-winged teal			20	"					20
Blue-winged teal			2000	"			0		
Cinnamon teal									
Shoveller			500	"			17	220	500 ✓
Wood duck									
Redhead	none seen								
Ring-necked duck	"								
Canvas-back	"								
Scaup	"								
Golden-eye	"								
Buffle-head	"								
Ruddy duck			40	"			2	5	40
4. <u>Coot:</u> 3-1750 (June 1949)			2000	"			2	5	Form NR-1 2000

(over)

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

REFUGE

Hiddenwood

WATERFOWL

MONTHS OF

Mayto August, 19 51

(1) Species Common Name	(2) First Migrants Seen		(3) Peak Concentration		(4) Last Migrants Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
1. Swans: Whistling swan									
2. Geese: Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									
3. Ducks: Mallard			200	8/20-31			3	30	300 ✓
Black Duck									
Gadwall			10	"					10 ✓
Baldpate			50	"					50 ✓
Pintail			100	"				20	200 ✓
Green-winged teal									
Blue-winged teal			100	"				20	100 ✓
Cinnamon teal									
Shoveller			20	"					40
Wood duck									
Redhead									
Ring-necked duck									
Canvas-back			20	"					30
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck			25	"			2	20	25 ✓
Unidentified							1	5	
4. Coot:			200	"				20	200

3-1750

(June 1949)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

REFUGE

Lake Patricia

WATERFOWL

MONTHS OF May

to

August

, 19 51

(1) Species Common Name	(2) First Migrants Seen		(3) Peak Concentration		(4) Last Migrants Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
1. <u>Swans:</u> Whistling swan									
2. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									
3. <u>Ducks:</u> Mallard			500	8/20-31			3	40	500 ✓
Black Duck									
Gadwall			30	"			1	20	30 ✓
Baldpate			50	"			1	20	100 ✓
Pintail			300	"			3	40	300 ✓
Green-winged teal									
Blue-winged teal		100	8/20-30			4	50	150 ✓
Cinnamon teal									
Shoveller			100	"			None seen	30	100 ✓
Wood duck									
Redhead									
Ring-necked duck									
Canvas-back									
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck									
4. <u>Coot:</u> 3-1750 (June 1949)			100	"			None	20	100 Form NR-1

(over)

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period_____

Peak waterfowl numbers_____

Areas used by concentrations_____

Principal nesting areas this season_____

Reported by_____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

REFUGE

Legion Lake

WATERFOWL

MONTHS OF

May

to

August

, 19

51

(1) Species Common Name	(2) First Migrants Seen		(3) Peak Concentration		(4) Last Migrants Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
1. <u>Swans:</u> Whistling swan									
2. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									
3. <u>Ducks:</u> Mallard			500	8/20-31			10	200	800 ✓
Black Duck									
Gadwall			40	"			None Seen	20	40 ✓
Baldpate			100	"			5	50	200 ✓
Pintail			100	"			3	50	200 ✓
Green-winged teal									
Blue-winged teal		300	"			6	100	400 ✓
Cinnamon teal									
Shoveller			200	"			6	100	300 ✓
Wood duck									
Redhead									
Ring-necked duck									
Canvas-back			30	"			None Seen	20	30 ✓
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck			20	"			None Seen	10	20 ✓
			200	"					
4. <u>Coot:</u> 3-1750 (June 1949)									

200
Form NR-1

(over)

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Lake Moleson Months of May to August 1946

(1) Species		(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name		Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u>										
Whistling swan										
II. <u>Geese:</u>										
Canada goose										
Cackling goose										
Brant										
White-fronted goose										
Snow goose										
Blue goose										
III. <u>Ducks:</u>										
Mallard				400	8/20-31			3	50	400
Black duck										
Gadwall				10	"					
Baldpate				50	"				20	100
Pintail				100	"			4	50	100
Green-winged teal										
Blue-winged teal				100	"			None Seen	25	100
Cinnamon teal										
Shoveller				100	"			2	30	100
Wood duck										
Redhead										
Ring-necked duck										
Canvas-back				20	"					20
Scaup										
Golden-eye										
Buffle-head										
Ruddy duck										
IV. <u>Coots:</u>				100	"					200

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Pretty Rock Months of May to August 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									
III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck			1,000	8/20-51			6	80	1,500
			50	"			1	20	50
			600	"			5	40	600
			2,800	"			5	60	3,000
			400	"			8	80	500
			200	"			5	70	200
			30	"			None Seen	20	50
IV. <u>Coot:</u>			300	"					500

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

 Refuge Stewart Lake Months of May to August 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									
III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck			1,200	8/20-51			5	32	1,500 ✓
			20	"			None Seen		20 ✓
			200	"					300 ✓
			300	"			5	40	1,000 ✓
			1,000	"			5	55	1,500 ✓
			50	"			None Seen		100 ✓
IV. <u>Coot:</u>			200	"			None Seen		200

3-1750

(over)

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

Form NR-1

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge White Lake Months of May to August 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									
III. <u>Ducks:</u> Mallard			300	8/20-31			3	40	400 ✓
Black duck									
Gadwall			20	"			None Seen	10	25 ✓
Baldpate			200	"					200 ✓
Pintail							3	40	300 ✓
Green-winged teal									
Blue-winged teal	200				2	30	300 ✓
Cinnamon teal									
Shoveller			50				None Seen	40	50 ✓
Wood duck									
Redhead									
Ring-necked duck									
Canvas-back									
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck									
IV. <u>Coot:</u>			200	"					200

3-1750

(over)

Form NR-1

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge Lake Ilo Months of May to August 1945

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Eared Grebe			250	8/20-31					60	300
Western Grebe			none seen							
Pied-billed Grebe			20						10	30
White Pelican			120	8/20/30						200
Double-crested Cormorant			6	8/20-30						6
Great Blue Heron			6	8/20-30						10
Black-crowned Night Heron			8	8/20-31						20
II. Shorebirds, Gulls and Terns:										
Killdeer									100-	200
Willet										30
Lesser Yellow-legs										50
Greater Yellow-legs										100
Spotted Sandpiper										100
Dowitcher										30
Avocet										16
Wilson's Phalarope										200
Gulls										2000
Common Tern										300
Marbled Godwit										40

(over)

(1)	(2)		(3)	(4)	(5)		(6)
III. <u>Doves and Pigeons:</u>							
Mourning dove			300	8/1-30		100	300
White-winged dove							
IV. <u>Predaceous Birds:</u>							
Golden eagle	2	8/16	2	8/16-30			
Duck hawk	4	8/20	4	8/20-30			
Horned owl	1	8/2	2	8/2-10			
Magpie	none	seen					
Raven							
Crow			100	8/20-31			100
Marsh Hawk			10	8/20-31			10
Sparrow Hawk			10	8/20-31			10
				Reported by <u>Chesley M. Dinkins</u>			

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752

Form NR-2

(April 1946)

UPLAND GAME BIRDS

1613

Refuge District IV Reservoirs, as listed Months of May to August, 1946

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks	
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd. Estimated Total	Percentage	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specificoally requested. List introductions here.
LAKE ILO							
Pheasant			6	75		100	Smallest population since refuge established.
Sharp-tailed Grouse			1	20		30	
Hungarian Partridge			0	30		50	
HIDDENWOOD							
Pheasant			0			10	
Sharp-tailed Grouse			0			20	
Hungarian Partridge			0			30	
LA KE PATRICIA							
Pheasant			0	50		75	
Sharp-tailed Grouse			0			10	
Hungarian Partridge			0	20		40	
LEGION LAKE							
Pheasant			0	20		30	
Sharp-tailed Grouse			0	15		30	
Hungarian Partridge			0	30		45	
MoLEAN							
Pheasant			0			0	
Sharp-tailed Grouse			0	10		20	
Hungarian Partridge			0	20		30	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

67

3-1752

Form NR-2

(April 1946)

UPLAND GAME BIRDS

1613

Refuge District IV Reservations, as listed. Months of May to August, 1946

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd. Estimated Total	Percentage	Hunting For Re- stocking For Research	Estimated number using Refuge Pertinent information not specifically requested. List introductions here.
<u>PRETTY ROCK</u>						
Pheasant			40			70
Sharp-tailed Grouse			10			20
Hungarian Partridge			20			30
<u>STEWART LAKE</u>						
Pheasants			20			30
Sharp-tailed Grouse			20			30
Hungarian Partridge			20			30
<u>WHITE LAKE</u>						
Pheasants			20			30
Sharp-tailed Grouse			10			15
Hungarian Partridge			20			30

* Only columns applicable to the period covered should be used.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

EASEMENT REFUGES OF DISTRICT 4aClearwater Easement:

The area was visited on August 3, 1951 by Messrs. McGlauchlin and Frye for inspection and brood counts. Water conditions and aquatic vegetation was in adequate condition for this type of area where the land is utilized for farming down to the waters edge. The entire area under easement was reported as needed. A bathhouse has been erected at one point on the beach and has resulted in a wide dispersion of broods and wild actions in the adult birds. Brood count data will be found in the following table.

Shell Lake Easement: (McAlmond)

The area was visited on August 3, 1951 for inspection and brood counts. This area is also mis-used from an agricultural standpoint. Water conditions were good and a fair number of broods were observed. At the time of the visit there were large concentrations of Avocets and Marbled Godwits present. There were 150 avocets feeding in one small pothole. Brood count data will be found in the following table.

Zahl Easement:

This area was visited on August 1, 1951. The newly acquired Section 36 was inspected as to suitability for use as a grazing unit but as this area has been badly overgrazed in the past it was decided not to permit any grazing for the present. The privately owned fence around the section is to be removed and replaced with a Gov't. fence as soon as time permits. The dike was inspected and all badger holes were caved in and shoveled shut. Some reposting is necessary and portions of the Government-owned fence are in need of repair. These jobs will be attended to in the near future. Brood counts were taken and proved this area to be highly productive as in preceding years. Brood count data will be found in the following table. While making the brood counts Mr. Huenecke, Acting Refuge Manager, Des Lacs, observed four (4) black ducks which are relatively rare this far west. Also observed were 150 pelicans, numerous shore birds and 13 broods of Coots.

BROOD COUNT - CLEARWATER LAKE NATIONAL WILDLIFE REFUGE
August 3, 1951

Class	IA		IB		IIA		IIB		III		Total	
Species	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods
Mallard							10	1			10	1
Pintail					19	4					19	4
Blue-wing Teal			10	2							10	2
Canvasback			5	1	3	1					8	2
Ruddy Duck			9	1	14	2					23	3
Unidentified					11	2					11	2
Totals			24	4	47	9	10	1			81	14

BROOD COUNT - SHELL LAKE NATIONAL WILDLIFE REFUGE
August 3, 1951

Class	IA		IB		IIA		IIB		III		Total	
Species	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods
Mallard					5	1	29	4	9	1	43	6
Pintail			3	1	11	2					14	3
Blue-wing Teal			6	1	10	3	8	2			24	6
Shoveller									11	2	11	2
Canvasback					10	2					10	2
Scaup							11	1			11	1
Unidentified			18	3	46	10	48	7	20	3	132	23
Totals			27	5	82	18	96	14	40	6	245	43

BROOD COUNT - LAKE ZAHN NATIONAL WILDLIFE REFUGE
August 1, 1951

Class	IA		IB		IIA		IIB		III		Total	
Species	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods	Number Young	Number Broods
Mallard			27	5	60	9	62	14	75	14	224	42
Pintail			6	2	12	2	31	5	36	10	85	19
Blue-wing Teal	5	1	12	1	21	3	21	3	10	2	69	10
Baldpate			6	1	8	1					14	2
Shoveller							12	2	22	4	34	6
Gadwell			28	3	55	5	7	1			70	9
Redhead	28	3	27	3					8	1	63	7
Canvasback			21	3	8	1	8	1	6	1	43	6
Ruddy Duck	24	5	27	6	16	3					67	14
Unidentified	40	5	23	5	36	6	18	3	15	2	132	21
Total	97	14	177	29	196	30	159	29	172	34	801	136

WATERFOWL

Refuge Clearwater Lake Months of May to August 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									None
III. <u>Ducks:</u> Mallard							1	25	200 ✓
Black duck									50
Gadwall									25
Baldpate									100 ✓
Pintail							4	40	
Green-winged teal									
Blue-winged teal							2	20	150 ✓
Cinnamon teal									
Shoveller									25
Wood duck									
Redhead									50
Ring-necked duck									
Canvas-back							2	20	50 ✓
Scaup									25
Golden-eye									
Buffle-head									
Ruddy duck							3	40	75 ✓
IV. <u>Coot:</u>									200

3-1750

(over)

Form NR-1

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

SUMMARIES

Dates waterfowl counts made August 3, 1951

Percent of waterfowl area covered 75%

Dates brood counts made August 3, 1951

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks 145

Coots _____

Total waterfowl usage during period 980

Peak waterfowl numbers _____

Areas used by concentrations Open water area.

Principal nesting areas this season _____

Reported by John R. Frye

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Sholl Lake Months of May to August 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									None
III. <u>Ducks:</u> Mallard							6	75	500 ✓
Black duck									
Cadwall								30	300 ✓
Baldpate								20	200 ✓
Pintail							3	30	400 ✓
Green-winged teal									30
Blue-winged teal							6	50	500 ✓
Cinnamon teal									
Shoveller							2	25	75 ✓
Wood duck									
Redhead									35
Ring-necked duck									
Canvas-back							2	20	150 ✓
Scaup							1	20	50 ✓
Golden-eye									
Buffle-head									
Ruddy duck									200
IV. <u>Coot:</u>									1000

3-1750

(over)

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

Form NR-1

SUMMARIES

Dates waterfowl counts made August 3, 1951

Percent of waterfowl area covered 50%

Dates brood counts made August 3, 1951

Percent of area covered in brood counts 50%

Total production:

Geese

Ducks 270

Coots

Total waterfowl usage during period 3,440

Peak waterfowl numbers

Areas used by concentrations Open water area.

Principal nesting areas this season

Reported by John R. Frye

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Lake Zuhl Months of May to August 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									None
III. <u>Ducks:</u> Mallard							42	400	1500 ✓
Black duck									4 ✓
Gadwall							9	150	200 ✓
Baldpate							2	30	75 ✓
Pintail							19	150	1000 ✓
Green-winged teal								12	25 ✓
Blue-winged teal							10	120	500 ✓
Cinnamon teal									
Shoveller							6	50	100 ✓
Wood duck									
Redhead							7	120	600 ✓
Ring-necked duck									
Canvas-back							6	75	200 ✓
Scaup								50	200 ✓
Golden-eye									
Buffle-head									
Ruddy duck							14	120	200 ✓
IV. <u>Coot:</u>							13	50	2000 ✓

3-1750

(over)

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

Form NR-1

SUMMARIES

Dates waterfowl counts made August 1, 1951

Percent of waterfowl area covered 50%

Dates brood counts made August 1, 1951

Percent of area covered in brood counts 50%

Total production:

Geese ---

Ducks 1,277

Coots 50

Total waterfowl usage during period 6,600

Peak waterfowl numbers 75 80 3000

Areas used by concentrations Open water area.

Principal nesting areas this season 20 300

Reported by John R. Frye

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

LAKE ILO REFUGE.

I. GENERAL.

A. Weather Conditions.

Precipitation was below normal at Lake Ilo during the period. Most of the snow stayed on the ground until the end of the period. The winter was considered good until the latter part of February and March, at which time two very severe blizzards occurred. This spring was later than usual but not as late as last spring.

Weather data for the past four months are as follows:

<u>Month</u>	<u>Precipitation</u>	<u>Snowfall</u>	<u>Max.Temp.</u>	<u>Min.Temp.</u>
January	.45	6.3	38	-31
February	.98	14.4	43	-26
March	.20	4.2	47	-29
April	1.16	4.3	74	10
Total	2.79	29.2"	Extremes 74	-31

The spring run-off occurred on March 27, approximately seven days later than usual.

B. Water Conditions.

The Lake Ilo ice level was 17" below the spillway crest on January 1, 1951 and remained this way until March 27 at which time the run-off started and by 4:00 P.M. this date the water started going over the spillway, at 7:00 P.M. it was 7" above spill crest and on March 29 reached a peak of 25" above crest. By April 4 the water level had dropped to 10" above spillway, April 13 to 5" and from this date until the close of the period the water level remained approximately 2" above spillway crest. The ice was measured in February and found to be 32 inches in thickness. All the ice disappeared from the lake on April 26.

C. Fires.

No fires occurred during the period. Fire hazards were very low because there was snow on the ground most of the period.

II. WILDLIFE

A. Migratory Birds.

A few mallards were seen on the refuge during February as they wintered in the springs near the Killdeer mountains, as reported by a rancher in that vicinity. The lake was completely frozen over this

winter and it is the first time for several years that ducks have not wintered here.

The first spring migration appeared on March 26 and consisted of mallard and pintail. Migration was very slow and later than usual. There were less geese using the refuge this spring than usual. On April 3, 600 and on April 17 - 150 Canada geese were observed on the refuge. On April 20 - 50 snow geese were seen. It is estimated that 2,000 Blue bills were on the refuge the later part of April. Shore bird migration seemed to be late and only the following have been observed.- A few killdeer and willet, also a few gulls, consisting of Franklin's, ring-billed and Herring.

B. Upland Game Birds.

It is estimated that 450 pheasants were using the refuge at the beginning of the period and remained at this number until March at which time two severe blizzards occurred. It is estimated that 75% of the pheasant population was killed during these blizzards, and approximately 100 remain on the refuge at the close of the period.

More sharp-tailed grouse were observed on the refuge this winter than for several years. It is estimated that 100 used the area this winter and about 30 are using the area at present.

A number of Hungarian partridges have been observed this spring. It is believed that there were 100 on the refuge at the beginning of the period and 50 are present at the close of the period.

C. Big Game Animals. None.

D. Fur Animals, Predators, Rodents, and other Mammals.

A permit was issued to trap fur-bearing animals on the refuge but due to the cold weather during most of the trapping period combined with the heavy snowfall it was impossible to trap. It appears that the muskrat population is smaller than last fall. A few signs of mink have been observed and their numbers remain approximately the same as last fall, and it is believed that about 20 are using the refuge at present. Very few signs of weasel were observed during the period and only a few seem to be using the refuge. A number of skunk have been observed this spring and it is believed their population is a little larger than usual.

No coyote or fox have been observed on the refuge. A den of fox were found three miles east of the refuge, the first young fox ever found in this vicinity. Very few coyote are present in this locality and their population is considered very low.

Three beaver were trapped near the refuge and three were observed on the refuge this spring. Slight damage was done to trees at several places.

E. Predacious Birds, including Crows, Ravens, Magpies.

The first crows appeared on the later part of March and they have been present on the refuge ever since. A number of Golden Eagles have been observed during the winter. The last one seen was on April 17. A number of Prairie Falcons were seen during the period but in numbers below last year. A few Marsh Hawks have been observed on the refuge this spring but it is believed their numbers are smaller than usual.

F. Fish.

Winter fishing was permitted from December 1 to March 1 and a large number of fishermen used the area when the weather was fit. Very few fishermen used the area in February due to blocked roads. The principal catch was Perch, with very few crappies caught. During the last week of February fish would come up in the holes cut in the ice by fishermen but a week later holes were cut and checked and no fish were seen. When the ice was all melted from the lake on April 26 a large number of dead fish were observed, picked up and buried. About 12 ton of fish were picked up on dam, northshore to west end of recreational area and south shore to a short distance west of headquarters. 90% of the weight of the dead fish were Carp, weighing from 5 to $8\frac{1}{2}$ lbs. the other 10% in weight consisted of Bass, Crappies, blue-gills, perch, suckers, channel catfish, bullhead, golden eyes and Pike. Fifty six channel cat fish were picked up that weighed from 12 to $18\frac{1}{2}$ lbs. Bass and Pike averaged $2\frac{1}{2}$ lbs. ea. and most of the crappies and perch were small. About 60% of the dead fish went over the spillway on April 27 and 16 local people assisted picking up fish. On April 29, 10 ton were picked up hauled away and buried and after that very few were observed.

III. REFUGE DEVELOPMENT - MAINTENANCE

A. Physical Developments.

The following maintenance and construction projects were completed during the period:

1. Cleaned up form lumber that was used on Lake Ilo Spillway repair.
2. Placed hay against spillway walls to keep weep holes from freezing.
3. Placed asbestos paper and tin around chimney and stove in garage.
4. Installed new window panes in buildings at headquarters.
5. Cleaned and repainted boat #648.
6. Cut hole for door between office and adjacent building.
7. Opened snow blocked roads several times. Maintained roads.
8. Painted basement and all of interior of residence.
9. Laid asphalt tile on bathroom floor.

10. Made minor repairs on IHC Pickup #I-16922 and Diamond T Truck #I-16956.
11. Made up wakefield piling for Pretty Rock spillway repair.
12. Constructed and placed covers on disposal field at headquarters.
13. Repaired creek crossing on refuge road below dam.
14. Installed new anchor post and painted flag pole.
15. Repaired refuge boundary fence that was broken down by snow.
Built three new gates.
16. Started building new refuge boundary fence on West line of S $\frac{1}{4}$ of Sec. 29. Corner post and gate post were installed in concrete.
17. Started to build barnyard at headquarters. 10% completed.
18. Picked up and disposed of approximately 12 tons of fish.
19. Hauled load of material to Des Lacs on Diamond T Truck and worked there from May 2 to May 5 hauling gravel.

B. Plantings.

No grain crops are to be planted by refuge personnel. The following cooperative farming permits are in effect for agricultural land on the refuge.

Permit No. 18707 Tom Donohoe 45 acres corn and wheat.
Permit No. 18706 Charles Schollmeyer 85 acres barley and wheat.

All of the land under permit to Mr. Donohoe will be seeded as it was all summer fallowed last year with the exception of refuge share that was planted to corn. The refuge share will be corn.

One-half of the land under permit to Mr. Schollmeyer will be summer fallowed. Refuge share will be wheat or barley.

IV. ECONOMIC USES.

A. Grazing. None this period.

B. Haying. None this period.

C. Fur Harvest.

A trapping permit was issued to Mr. A. B. Rosendahl of Dunn Center, North Dakota to authorize the taking of Mink, Skunk, Weasel and Muskrat. The Mink, Weasel and Muskrat pelts to be shared on a 50-50 basis and the trapper is allowed to take all the pelts of the other animals. No trapping was done on the refuge due to bad weather and blocked roads.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Bird Banding. None.

VI. PUBLIC RELATIONS

A. Recreational Uses.

The Lake Ilo Recreational Area, maintained under cooperative agreement by Dunn County, has not been used this period due to the late spring. The area is to be maintained as in the past. Trees are to be cultivated and the grounds kept clean.

HIDDENWOOD

I. GENERAL.

The snowfall was above average in this vicinity and the winter was colder than normal. The area has not been visited this period, but it is believed the water level is higher than usual.

II. WILDLIFE.

Two trapping permits were issued to remove mink, weasel, skunk, badger, fox and muskrat from the refuge. No trapping was done under either permit due to inclement weather. Mr. Wilson, a farmer who lives near this refuge reported that the upland game birds wintered very good.

III. PHYSICAL DEVELOPMENTS.

None.

LAKE PATRICIA

I. GENERAL.

This refuge was not visited during the period. The State Game and Fish Department has control of most of this area. Water levels are believed to be higher than last year. The snowfall was about normal in this vicinity.

II. WILDLIFE.

The usual number of waterfowl used the area during migration and a good number of nesting birds are present. The upland game birds - Pheasant, Grouse and Hungarian Partridge wintered very good in this vicinity due to a more open winter.

III. PHYSICAL DEVELOPMENTS.

None.

LEGION LAKE

I. GENERAL.

The snowfall was above average in this area. There was a heavy run-off. The water elevation was 12" above spillway crest when visited on April 5, and the water has continued to flow over the spillway until the end of the period.

II. WILDLIFE.

A few pintail and mallard were observed on the area when visited on April 5. It is believed the usual number of birds used the area during spring migration. A trapping permit was issued to a local farm boy to remove fur-bearing animals from the refuge and he reported 7 mink taken.

III. PHYSICAL DEVELOPMENTS.

1. Structures were inspected.
2. Observed wildlife and checked water levels.

McLEAN

I. GENERAL.

This area was visited only once during the report period. The snowfall was above average with a late spring. The run-off occurred on April 5 and 6. The water elevation was 6" above spillway crest on April 5. The estimated peak run-off was 18" above spill crest.

II. WILDLIFE.

A few mallard and pintail were using the area when visited on April 5. The lake was covered with ice. It is believed the usual number of migratory birds used the area during April.

III. PHYSICAL DEVELOPMENTS.

Structures were inspected on April 5 and snow was cleaned out of culverts below spillway. The structures appeared to be in good condition.

PRETTY ROCK

I. GENERAL.

The snowfall in this vicinity was below average. In fact there was very little at any time all winter. The run-off occurred during the latter part of March. The water level was 12" above spillway crest on March 27 during the peak run-off.

II. WILDLIFE.

The following birds were observed on March 27. 200 Pintail, 16 Blue-bills, 32 baldpate, 20 mallard and 6 Canvas Back. It is believed that the usual number of birds used the area during the spring migration. A few ring-necked pheasant were observed on the refuge. Their number was small last fall compared to the past. It was reported by farmers that the pheasants wintered good. The Sharp-tailed Grouse and Hungarian Partridge survived the winter very good, and a few are using the area at the present time.

A trapping permit was issued to a farm boy living on the refuge. No report has been received from him to date.

III. PHYSICAL DEVELOPMENTS.

1. Inspected structures, checked water level and observed wildlife on March 27, the only time the refuge was visited during period.
2. Wakefield piling were made up at Lake Ilo for the spillway repair.
3. Material was purchased for spillway repair and hauled to Lake Ilo Refuge.

STEWART LAKE REFUGE

I. GENERAL.

Precipitation and snowfall were below normal in this locality during the report period. It was an open winter with cattle grazing most of the period. There was a very light run-off with only a small stream flowing over the spillway. The spillway seemed to be in the same condition as last fall. The water level was approximately 2 feet below spillway crest when the lake froze over last fall and when last visited on March 26 a small stream was flowing over the spillway.

II. WILDLIFE.

When visited on March 26 the following birds were observed: 40 Canada Geese, 500 Pintail and 20 Mallard. No Pheasants were observed on the refuge on this date but it is reported by farmers that they wintered very good. Several were seen along the road in this vicinity. A few Sharp-tailed Grouse and Hungarian Partridge are believed to be using the area.

Two trapping permits were issued to local parties on the area. They reported that they did not do any trapping.

III. PHYSICAL DEVELOPMENTS.

1. Structures inspected on March 26, 1951.
2. Observed birds and other wildlife.

WHITE LAKEI. GENERAL.

Precipitation and snowfall were below normal during the report period. The spring run-off was very light. The peak run-off was 6" above spillway crest on March 22 and 2" was flowing over the spillway on March 26.

II. WILDLIFE.

Birds observed on March 26 consisted of a few pintail and mallards. The lake was covered with ice.

It was reported by a farmer that more pheasants were using the refuge than there has been for several years, but at that their number is small. A few Sharp-tailed Grouse and Hungarian Partridge are using the area.

A trapping permit was issued to a farmer living on the refuge. He reports that he had traps out for mink but did not catch any.

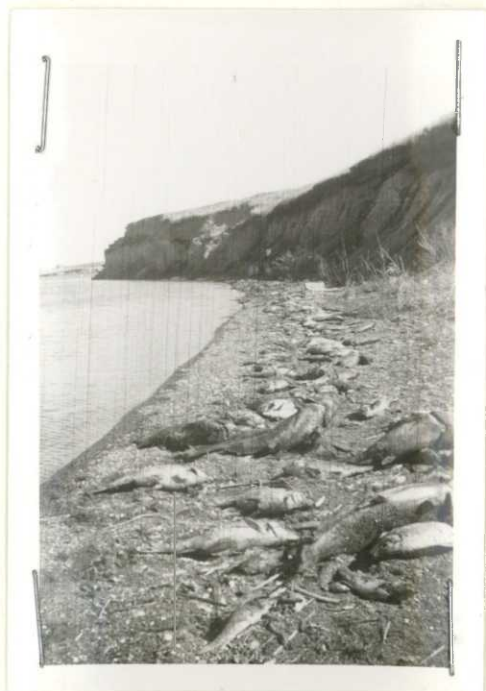
III. PHYSICAL DEVELOPMENTS.

1. Structures were inspected on March 26.
2. Wildlife observed on March 26.

----- * -----



Using a front-end loader to clean dead fish from shore lines. Lake Ilo Refuge.



Some of the winter killed fish at Lake Ilo.



Hauling the fish away by the truck loads to bury.

WATERFOWL

Refuge Lake Ile Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose	600	4/3-31	600	4/3-11	150	4/17-30			750
Cackling goose									
Brant									
White-fronted goose	60	4/6	200	4/17-25	75	4/25			275
Snow goose	50	4/20	200	4/20-30	25	4/26			275
Blue goose									
III. <u>Ducks:</u> Mallard	24	3/24	800	4/1-10					1600
Black duck									
Cadwall	3	4/18	50	4/20-30					50
Baldpate	30	3/26	200	3/25-4/10					300
Pintail	75	3/26	1000	3/25-4/10					2000
Green-winged teal	None seen.								
Blue-winged teal	2	4/21	100	4/20-30					200
Cinnamon teal									
Shoveller	2	4/18	100	4/20-30					200
Wood duck									
Redhead	20	4/8	100	4/10-30					100
Ring-necked duck									
Canvas-back	5	4/4	50	4/10-20					100
Scaup	30	3/31	1000	4/10-20					1200
Golden-eye	3	4/18	20	"					20
Buffle-head	2	4/18	20	"					20
Ruddy duck	11	4/22	40	"					40
IV. <u>Coot:</u>	15	4/22	200	4/20-30					200

3-1750

(over)

(Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

Form NR-1

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 7330

Peak waterfowl numbers 4680

Areas used by concentrations entire area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

 Refuge Hiddenwood Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose			None observed.						
III. <u>Ducks:</u> Mallard Black duck Cadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck			None observed. Not visited during period.						
IV. <u>Coot:</u>									

3-1750

(over)

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

Form NR-1

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

 Refuge Lake Patricia Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose			None observed. Area not visited during period. Estimated waterfowl usage.						
III. <u>Ducks:</u> Mallard Black duck Cadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck			200	4/1-10	Common				200 3 400 200 200 100 100 100 400 10 10 50
IV. <u>Coot:</u>									50

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 1850 Estimated.

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

Refuge Logion Lake Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose			None observed.						75 75 75
III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck	10 15 20 12	4/5 4/5 4/5 4/5	200 50 200 20 150 5 5 20	4/5-15 4/20-30 4/10-20 " 4/20-30 " " " " " " "					400 20 100 300 40 40 40 40 40 200 10 10 40
IV. <u>Coot:</u>			50	"					100

3-1750

(over)

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

Form NR-1

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 1585

Peak waterfowl numbers 810

Areas used by concentrations Entire area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge McLean Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose			None Observed.						
III. <u>Ducks:</u> Mallard Black duck Cadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck	12	4/5	100	4/5-20	Common				200
			10	4/20-30					10
			30	4/10-20					60
	20	4/5	100	"					150
			20	4/20-30					20
			20	"					20
			10	"					20
			10	"					20
			75	4/5-15					150
			5	4/20-30					10
			5	"					10
IV. <u>Coot:</u>			50	"					50

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 720

Peak waterfowl numbers 435

Areas used by concentrations Entire area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

 Refuge Pretty Rock Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose			None observed.						150 100 150
III. <u>Ducks:</u> Mallard Black duck Cadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck	20 32 200 6 16 	3/27 3/27 3/27 3/27 3/27 	500 20 200 500 50 50 25 50 300 5 5 	4/1-15 4/20-30 4/1-15 " 4/20-30 " " 4/20 4/1-15 4/20-30 4/20-30 					1000 20 200 1000 100 100 50 50 400 10 10
IV. <u>Coot:</u>			20	"					50

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production: _____

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 3,590

Peak waterfowl numbers 1,725

Areas used by concentrations Entire area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Stewart Lake Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose	40	3/26	200	3/25-4/5					200
Cackling goose									
Brant									
White-fronted goose			150	4/10-20					150
Snow goose			100	4/10-20					100
Blue goose									
III. <u>Ducks:</u> Mallard	20	3/26	1000	4/1-20					1500
Black duck									
Cadwall			10	4/20-30					10
Baldpate			150	4/1-20					300
Pintail	500	3/26	1000	3/25-4/10					1500
Green-winged teal									
Blue-winged teal			200	4/20-30					300
Cinnamon teal									
Shoveller			30	4/15-30					30
Wood duck									
Redhead			20	4/20-30					30
Ring-necked duck									
Canvas-back			20						200
Scaup			200	4/10-20					300
Golden-eye									
Buffle-head									
Ruddy duck									
IV. <u>Coot:</u>			25	4/20-30					50

3-1750

(over)

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

Form NR-1

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 4,670

Peak waterfowl numbers 3,105

Areas used by concentrations Entire area.

Principal nesting areas this season _____

Reported by Chesley M. Dinkins

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge White Lake Months of January to April 1951

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose	40	3/24	100	3/20-4/5					100
Cackling goose									
Brant									
White-fronted goose			50	4/5-20					50
Snow goose									
Blue goose									
III. <u>Ducks:</u> Mallard	5	3/26	500	4/10-20					600
Black duck									
Gadwall			20	4/20-30					20
Baldpate			50	4/10-20					100
Pintail	30	3/26	300	"					600
Green-winged teal									
Blue-winged teal	.....	.....	200	4/20-30					200
Cinnamon teal									
Shoveller			20	"					20
Wood duck									
Redhead			15	"					15
Ring-necked duck									
Canvas-back			15	"					15
Scaup			100	4/10-20					100
Golden-eye									
Buffle-head									
Ruddy duck									
IV. <u>Coot:</u>			25	4/2-30					50

3-1750

(over)

Form NR-1

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

SUMMARIES

Dates waterfowl counts made _____	Total waterfowl usage during period <u>1870</u>
Percent of waterfowl area covered _____	Peak waterfowl numbers <u>1195</u>
Dates brood counts made _____	Areas used by concentrations <u>Entire area.</u>
Percent of area covered in brood counts _____	
Total production:	Principal nesting areas this season _____
Geese _____	
Ducks _____	
Coots _____	
	Reported by <u>Chesley M. Dinkins</u>

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Lake Ile Refuge

Months of January to April 1945

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Sand Hill Crane	200	4/4	400	4/4-15						600
White Pelican	12	4/25	50	4/25-30						50

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	2	4/15	10	4/20-30	10
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle	Common	6	1/1-2/28		6
Duck hawk	1	4/5	4	4/10-30	4
Horned owl	Common	2/20			2
Magpie	Common				20
Raven					
Crow	3	3/26	100	4/1-15	300
Marsh Hawk	1	4/1	20	4/1-15	20
Sparrow Hawk	2	3/28	10	4/5-20	10
Prairie Falcon	1	1/8	4	1/1-2/28	4
Am. Rough-Legged	1	1/20	3	2/20-3/30	3
Snowy Owl	Common	3	1/1-30		3
Reported by Chesley M. Dinkins					

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

Refuge District IV Easements, as listed Months of January to April, 19451

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specificoally requested. List introductions here.
LAKE ILO										
Pheasant	(300 at the beginning of the period)								100	300 at beginning of period.
Sharp-tailed Grouse									100	70% lost during March storm.
Hungarian Partridge									100	
HIDDENWOOD										
Pheasant									10	Estimated.
Sharp-tailed Grouse									20	
Hungarian Partridge									40	
LAKE PATRICIA										
Pheasant									200	Estimated.
Sharp-tailed Grouse									25	
Hungarian Partridge									50	
LEGION LAKE										
Pheasant									40	40 at beginning of period but
Sharp-tailed Grouse									20	very few left this spring.
Hungarian Partridge									30	
MOLAN										
Pheasant									5	Estimated.
Sharp-tailed Grouse									20	
Hungarian Partridge									40	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Dis/strict IV Basements, as listed Months of January to April, 19451

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
<u>Pretty Rock</u>										
Pheasant									100	Estimated.
Sharp-tailed Grouse									10	
Hungarian Partridge									50	
<u>Stewart Lake</u>										
Pheasant									150	Estimated.
Sharp-tailed Grouse									100	
Hungarian Partridge									100	
<u>White Lake</u>										
Pheasant									50	Estimated.
Sharp-tailed Grouse									20	
Hungarian Partridge									40	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

Refuge District IV Easements as listed:

April 30, 1945

(1) Species	(2) Density	(3) Removals						(4) Disposition of Fur						(5) Total	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control	For Re- stocking	For Research	Share Trapping			Total Refuge Furs Shipped	Refuge Income	Furs Donated	Furs Destroyed	Popula- tion
								Permit Number	Trappers' Share	Refuge Share					
Muskrat	Lake Ile			None				T-4880							300
Mink				"											20
Coyote				"											0
Skunk				"											20
Badger				"											3
Weasel				"											6
House Cat				"											2
Beaver				"											3
Cotton tail Rabbit				"											20
Jack Rabbit				"											60
Muskrat	Hiddenwood			"				#55- 3-1430							200
Mink				"				#57 3-1430							15
Coyote				"											0
Skunk				"											10
Badger				"											6
Weasel				"											10
Jack Rabbit				"											8
Cotton Tail Rabbit				"											40
Red Fox				"											2

REMARKS:

1615

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.) Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year. Also show any removals not falling under heading listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

SMALL MAMMALS

Refuge District IV Basements as listed, April 30, 194/ 51

(1) Species	(2) Density	(3) Removals	(4) Disposition of Fur										(5) Total		
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control	For Re- stocking	For Research	Share Trapping			Total Refuge Furs Shipped	Refuge Income	Furs Donated	Furs Destroyed	Popula- tion
								Permit Number	Trappers' Share	Refuge Share					
Muskrat	Lake Patriola			None											60
Mink				"											10
Skunk	Trapping permit was not issued on this refuge.			"											12
Jack Rabbit				"					None						10
Cotton tail Rabbit				"											20
Muskrat	Stewart Lake			"											20
Mink				"					#50, 51 & 53 3-1400						10
Skunk				"											12
Cotton tail Rabbit				"											20
Jack Rabbit				"											15
Weasel				"											4
Muskrat	White Lake			"					#52 3-1400						20
Mink				"											6
Skunk				"											10
Cotton tail rabbit				"											10
Jack Rabbit				"											10
Muskrat	Pretty Rock			"					#53 3-1400						150
Mink				4 Estimated.											10
Skunk				None											10
Weasel				"											4

REMARKS:

1615

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.) Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year. Also show any removals not falling under heading listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Refuge District IV Basements as listed: April 30, 1941

(1) Species	(2) Density	(3) Removals						(4) Disposition of Fur						(5) Total	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control	For Re- stocking	For Research	Share Trapping			Total Refuge Furs Shipped	Refuge Income	Furs Donated	Furs Destroyed	Popula- tion
								Permit Number	Trappers' Share	Refuge Share					
Muskrat	Legion Lake			None				#49 & 40							150
Mink			7					3-1400							6
Weasel			None												6
House Cat			..												4
Cotton tail Rabbit			..												20
Jack Rabbit		..												10	
Muskrat	McLean			None				#58 -							60
Mink			..					3-1400							5
Skunk			..												6
Badger			..												2
Weasel			..												4

REMARKS:

1615

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.) Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year. Also show any removals not falling under heading listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

EASEMENT REFUGES OF DISTRICT 4aClearwater Easement:

The area was visited on April 25 but at that time the lake was still frozen over. Some reposting will be necessary and will be taken care of later in the spring.

Shell Lake Easement; (McAlmond)

The area was visited on April 25. The lake was still frozen over but the peak run-off had already occurred. Some signs and markers will have to be replaced and will be accomplished at a later date.

Zahl Easement:

This refuge was inspected on April 25 to inspect the dike for damage and to inspect the newly acquired Section 36. The water was 1" below the spillway at the time of inspection. Some badger damage was evident in the dike but on the whole the dike was in good shape, and does not appear to have received any further damage.

The private fence on the newly acquired Section 36 is in sad shape and it would not be to our advantage to acquire it for the Government. The pasture and forage in the section is poor and little grazing is recommended this year to allow the grass to come back.

A few refuge signs and markers need to be replaced and some fence repair is necessary on the Government-owned portion of the refuge. This work will be done later in the year.

At the time of the inspection the lake was being used by an estimated 3500 birds, mainly Scaup but with some Mallards, Pintails, Redheads, and Gadwall.

----- * -----
Respectfully submitted:


John R. Frye
Refuge Manager

May 15, 1951


Approved: Acting Regional Director

Date: MAY 21 1951

WATERFOWL

Refuge Shell (McAlmond) Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose			Frozen over at end of period. None Observed.						
III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck									
IV. <u>Coot:</u>									

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Clearwater Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan									
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose									
III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck									
IV. <u>Coot:</u>									

Frozen over at end of period. None Observed.

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period _____

Peak waterfowl numbers _____

Areas used by concentrations _____

Principal nesting areas this season _____

Reported by _____

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Refuge Lake Zuhl Months of January to April 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan	None	Observed.							
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose	None	Observed.							
III. <u>Ducks:</u> Mallard			200	4/25					400
Black duck	None	Observed.							
Gadwall			Few	4/25					15
Baldpate	None	Observed.							
Pintail			200	4/25					400
Green-winged teal	None	Observed.							
Blue-winged teal	"	"							
Cinnamon teal	"	"							
Shoveller	"	"							
Wood duck	"	"							
Redhead			Few	4/25					20
Ring-necked duck	None	Observed.							
Canvas-back	"	"							
Scaup			2500	4/25					3000
Golden-eye	None	Observed.							
Buffle-head	"	"							
Ruddy duck	"	"							
IV. <u>Coot:</u>	None	Observed.							

3-1750

(over)

Form NR-1

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 3800

Peak waterfowl numbers 3000

Areas used by concentrations Open water areas.

Principal nesting areas this season _____

Reported by John R. Frye

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: The greatest number of the species present in a limited interval of time.
- (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.